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AUTHOR Parker, Steve

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ABSTRACT

A study investigated the correct syllabification of intervocalic /tl/ consonant clusters in Spanish dialects that lack word-initial /tl/, using data from Peruvian Spanish. The study attempted to discover native speaker preference through the playing of a popular game involving, in part, dividing a word into syllables. Words containing the /tl/ cluster were included in the game's word lists. Subjects were 145 native speakers, 85 males and 60 females aged 13-53, from 25 different locations in Peru. Test results strongly indicate that intervocalic /tl/ clusters pattern as tautosyllabic onsets. Potential limitations to the study are seen in the game-like situation and the possibility that previously-learned behavior for the playing of the game might interfere with results. However, a large proportion of the subjects had not heard of the game before. A summary of test statistics is appended, and a 24-item bibliography is included. (MSE)

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ON THE SYLLABIFICATION OF /tl/ CLUSTERS IN SPANISH*

Steve Parker

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1 Introduction

As is commonly known, permissible word- and syllable-initial consonant clusters in Spanish consist of a stop (*p t k b d g*) or *f* followed by one of the two liquids *r* or *l*. Of the fourteen theoretically-possible combinations which these groupings yield, two are problematic:

(1) *Syllable-initial consonant clusters in Spanish*

{p t k b d g f} + {r l}

pr	tr	kr	br	dr	gr	fr
pl	?tl	kl	bl	*dl	gl	fl

The sequence *dl* does not occur word-initially and its word-internal attestation is limited to second person plural "familiar" commands such as *tomadlo* ('drink it'), which are rarely used outside of Spain. In words of this type the syllable break unquestionably occurs between the *d* and the *l*; since the /d/ in this environment is pronounced as a voiced fricative, it is much higher in sonority than is a voiceless stop such as /t/. Therefore, the phonetic sequence [dl] constitutes a type of sonority clash (cf. Parker 1989)

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and is consequently split apart during the syllabification process. The sequence *tl* is somewhat more frequent than *dl* since it does occur in a few rather common words, such as *atlas* 'atlas' and *atleta* 'athlete'. However, the cluster *tl* never occurs word-initially except in a few uncommon Aztec loanwords used in Mexico. Thus the question arises of how words such as *atleta* are to be syllabified: *at.le.ta* or *a.tle.ta*?

This article is organized as follows. First I review some of the relevant literature in order to demonstrate that the correct syllabification of *tl* clusters in Spanish is not at all an uncontroversial issue. I then describe a psycholinguistic test which I designed for the purpose of resolving this controversy. The test is based on a word game which is well-known in the Spanish-speaking world; it requires the speaker to syllabify each word as it is being pronounced. This game was applied to three different words, each one containing an intervocalic *tl* cluster, in order to ascertain the correct syllabification. Next I present the results of the testing, which strongly indicate that word-internal *tl* clusters in Spanish pattern as tautosyllabic onsets. Finally, I discuss the theoretical implications of these findings.

2 The problem

From the early 1970's until the present day, a tremendous amount of literature in the generative and non-linear traditions has been dedicated to exploring the role of the syllable in phonological theory (see, for example, Hooper 1972 and 1976; Lowenstamm 1981; Harris 1983; Itô 1986; Cairns 1988; and Mohanan 1989). In spite of all the advances which have been made in this area, certain basic questions still remain unanswered. For example, the syllabification of word-internal consonant clusters can vary greatly and in unpredictable ways from language to language. Thus, when we encounter the sequence *VtlV* in Spanish, one of the questions which confronts us is how to determine what the correct syllabification is and then demonstrate that our analysis is the best one.

One of the basic parameters which governs syllabification cross-linguistically is the universal tendency to maximize onsets and minimize codas.[1] Cairns

[1] Although Harris (1983) demonstrates that the notion of a coda constituent is not necessary in the most efficient description of Spanish syllable structure, I take the

(1988:232) calls this principle ONSETMAX. In order to determine which word-internal sequences of consonants constitute a well-formed onset cluster in a particular language, we often begin by noting which word-initial onsets are attested in that language. The obvious principle which motivates this procedure is the observation that in a word-initial position, consonant clusters are unquestionably syllable-initial as well. Therefore, many of the intervocalic clusters which occur can unambiguously be syllabified based on the clusters which are attested word-initially. Lowenstamm (1981) calls this algorithm the Maximal Cluster Approach. If we were to base our analysis strictly on this principle by itself, we would posit that in those dialects of Spanish which exhibit word-initial *tl* clusters — all of which are limited to Mexico — the word-internal sequence *tl* should also be syllabified as a tautosyllabic onset. However, the vast majority of Spanish dialects do not exhibit *tl* clusters word-initially, so the Maximal Cluster Approach is not adequate to conclusively resolve the controversy in this case.

As Mohanan (1989:592) demonstrates as well, another problem is that the principle of ONSETMAX simply does not hold true for all languages. Because of this fact, situations can arise in which the exact same sequence of intervocalic consonants can be syllabified differently in two or more languages. For example, she gives the following contrastive syllabifications of identical words in two different languages of India:

(2)		*Malayalam*	*Hindi*
/baɳdʰanam/	—>	ba.ɳdʰa.nam	baɳ.dʰa.nam
/ɖaršanam/	—>	ɖa.rša.nam	ɖar.ša.nam

Examples such as these illustrate that one of the problems which still confronts us is this: although we can predict with near-absolute certainty how certain word-internal sequences will be syllabified in a given language, there still exist other combinations of segments which, by themselves, do not allow for any such a priori prediction. One of the reasons for this is that syllable boundaries are to a large degree phonetically invisible, i.e., they display no inherent physical manifestation. Hooper (1976:198) similarly comments with respect to this issue that "all

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liberty throughout this article of employing the term "coda" as a convenient abbreviatory device when referring to consonants which occur in the post-nuclear position of the rhyme. In doing this I do not mean to imply that I necessarily disagree with Harris' analysis.

attempts to locate syllable boundaries on a purely physical basis have ... failed." I suggest that *tl* clusters in Spanish are one case in point.

With these thoughts in mind, I consulted a number of grammars, dictionaries, and phonological studies of Spanish in order to determine what consensus, if any, exists concerning the correct syllabification of intervocalic *tl* sequences. What I discovered is that out of a total of thirteen sources, eight claim that word-internal *tl* clusters in words such as *atlas* and *atleta* must be split apart so that the *t* is in the coda of the first syllable and *l* is the lone onset of the second syllable, viz., *Vt.lV* (Stirling 1935; Place and Torres-Rioseco 1943; Martínez 1954; Velázquez 1967; Pei 1968; Quilis and Fernández 1971; Hooper 1976; and Butt and Benjamin 1988).

The following comments summarize Hooper's (1976) explanation of why *tl* clusters are not (in her opinion) tautosyllabic in Spanish. She notes that among the voiceless stops, the coronal /t/ is weaker than either /p/ or /k/. Furthermore, /l/ is stronger than /r/. Therefore, an onset sequence combining *t* and *l* would constitute a strength clash and is consequently prohibited (Hooper 1976:212). Perhaps a more simple and obvious explanation for the proposed non-occurrence of *tl* onsets, if indeed this is the correct analysis, lies in the fact that [t] and [l] are homorganic non-continuants (assuming that laterals are [-continuant]).

However, Hooper (1976) then makes two other observations which appear to contradict her previous assertion that *tl* onsets are prohibited in Spanish. In the first place, she claims that voiceless stops do not normally occur in the coda position in Spanish. Furthermore, she also proposes as a universal constraint that in a bisyllabic sequence having the pattern *VC.CV*, the onset consonant of the second syllable must be stronger than the coda consonant which immediately precedes it (Hooper 1976:215). Curiously, both of these proposals argue that the sequence *VtlV* in Spanish should be syllabified as *V.tlV*, contradicting Hooper's earlier claim that intervocalic *tl* sequences must be heterosyllabic.

Returning to the thirteen sources mentioned above, three of them claim that intervocalic *tl* sequences in Spanish are definitely *not* split between two syllables (Ramsey 1934; Bello and Cuervo 1941; Castillo and Bond 1961). The remaining two sources say that the syllable break varies, allowing for either *V.tlV* or *Vt.lV* (Navarro 1965; Harris 1969 and 1983). Harris is widely recognized as one of

the leading authorities on Spanish phonology. His comments at this point are of particular interest:

> Not all dialects have word-initial *tl*. Those that have it also allow *tl* as an internal onset. Of the dialects without initial *tl*, some allow *tl* as an internal onset while others require heterosyllabic *t-l* (Harris 1983:139).

When Harris mentions that certain dialects attest word-initial *tl* clusters, he is referring to Mexicanisms such as *tlaco* and *tlapalería*, which Santamaría (1959) defines respectively as 'a coin used in colonial times' and 'a store which sells materials used in coloring fabrics'. Since both of these words (as well as many others like them) are of Aztec, not Latin or Greek, origin, they do not occur outside of Mexico.

We thus return once more to the question of how to determine the correct syllabification of intervocalic *tl* clusters in those dialects which lack word-initial *tl*. The dialect upon which this study is based — Peruvian Spanish — is one such example. According to Harris, some of these dialects require *tl* clusters to be split while others allow them as tautosyllabic onsets. Given the diversity of opinions on this matter, however, one must ask: what constitutes evidence for determining syllabification in unclear cases? A major type of evidence in phonological analysis is, of course, native speaker reaction. With this in mind, I devised an experiment to resolve this issue by providing tangible, empirical evidence demonstrating which syllabification is preferred by native speakers. I now turn to a description of the test which was designed.

3 Design of the test

As mentioned in the introduction to this article, the popular word game on which the test was designed involves, among other things, dividing a word into syllables. The game is most often referred to as *hablar con (la) p* 'talking with *p*', although other names by which it is known (in Peru, at least) are *tipitopo*, *tuti-fruti*, and *jer(i)gonza*. Relying upon this game, I developed a psycholinguistic test which would require native speakers of Peruvian Spanish to syllabify certain words containing an internal *tl* cluster. The written instructions which were given to each subject were the following (translated from Spanish):

(3) *Instructions*

I would like to teach you a word game. You may already be familiar with it. This game consists of dividing a word into syllables. After each syllable, you add a *p* and then repeat the same vowel which was just pronounced. For example, if the syllable were *to*, you would add a *p* and then an *o*, and the result would be *to-po*. If the syllable were *mes*, you would say *mes-pe*: first you pronounce the syllable, *mes*, then you add a *p*, and then you repeat the vowel *e*: *mes-pe*. Do you understand? When you come to a word which contains more than one syllable, you should pronounce the word one syllable at a time, adding a *p* and a vowel after each syllable. For example, let's suppose you read the word *gota*. Then you would say *go-po-ta-pa*. If the word were *vestir*, you would say *ves-pe-tir-pi*. If the word were *libro*, you would say *li-pi-bro-po*. Okay? First I'm going to give you a list of ten words to practice with. After that, if you don't have any questions, I'll give you another list of seven words which we will record as you say each word. I would like you to first read each word as you normally pronounce it, and then divide it into syllables as I've just explained. Do you have any questions?

One objection which might be raised at this point is that these instructions contain the technical terms *syllable* and *vowel*. However, these two concepts are very basic and intuitive and did not cause any problems for any of the subjects. The practice list consisted of the following words:

(4) *Practice list*

1.	nudo	'knot'
2.	aclara	's/he clarifies'
3.	usen	'they use (subj.)'
4.	artes	'arts'
5.	oyera	's/he heard (subj.)'
6.	escudo	'shield'
7.	abrigo	'overcoat'
8.	imitarla	'to imitate her'
9.	atrasarse	'to be delayed'
10.	enyesando	'plastering (v.)'

After each subject had been given sufficient time to read the instructions, I listened to him or her pronounce the ten words on the practice list while applying the rules

of the word game to each one. The purpose of the practice list was two-fold: (a) to provide each subject with sufficient practice before recording the test list, and (b) to screen the subjects in order to ensure that they had properly understood the instructions and could apply the rules of the word game correctly. The ten words which were chosen for the practice list were selected so as to give the subjects at least one example of each type of syllable and word pattern which they would later encounter on their respective test list.

Each subject who successfully completed the practice list was then given one of three test lists. The last word on each test list contained an intervocalic *tl* cluster. Three different target words were used in order to determine whether stress affected the syllabification in any way.

(5) *Test list A*

1. uvas	(u.vas)	'grapes'
2. arden	(ar.den)	'they burn'
3. abres	(a.bres)	'you (sg.) open'
4. obran	(o.bran)	'they labor'
5. ojos	(o.jos)	'eyes'
6. estos	(es.tos)	'these (m.)'
7. atlas	? ? ?	'atlas'

Ś.S

On test list A above, the targeted word was *atlas*. The canonical syllabification of the first six words is given after each item. Each of the seven words is bisyllabic and is stressed on the first syllable. A number of criteria were employed in choosing the words for each test list. All of the words are commonly-known nouns, verbs, or adjectives. I avoided words which have a written accent mark over a vowel, partly because that usually indicates an irregular stress pattern. Furthermore, I avoided words which contain digraphs (silent letters) as well as capitalized words (proper nouns), in order to keep the test list words as simple as possible (thereby maximizing the one-to-one correspondence between letter and phoneme). For the same reasons, I avoided all diphthongs, partly because I was not sure how the rules of the game are supposed to apply to a syllable containing a complex nucleus.

(6) *Test list B*

1. aflige	(a.fli.ge)	's/he/it afflicts'
2. entera	(en.te.ra)	'whole (f.)'
3. oliva	(o.li.va)	'olive'

4. objeto	(ob.je.to)	'object (n.)'
5. agrada	(a.gra.da)	's/he/it pleases'
6. amigo	(a.mi.go)	'friend (m.)'
7. atleta	? ? ? ?	'athlete'

S.Ś.S

(7) *Test list C*

1. anteponga	(an.te.pon.ga)	's/he puts before (subj.)'
etnicismo	(et.ni.cis.mo)	'ethnicism'
2. obligarse	(o.bli.gar.se)	'to obligate oneself'
3. ubicando	(u.bi.can.do)	'placing'
4. ebanista	(e.ba.nis.ta)	'woodworker'
5. agradarle	(a.gra.dar.le)	'to please him/her'
6. ignorante	(ig.no.ran.te)	'ignorant'
7. atletismo	? ? ? ? ? ?	'athletics'

S.S.Ś.S

On test list B above, the targeted word was *atleta*. All of the words on this list consist of three syllables and are stressed on the penultimate syllable. On test list C (7), the targeted word was *atletismo*. All of the words on this list have secondary stress on the initial syllable and primary stress on the penultimate syllable. On test list C, the first word is listed both as *anteponga* and *etnicismo*. About one-third of the way through the testing, I came across Hooper's (1976:215) claim that voiceless stops cannot occur in coda position in Spanish (cf. section 2). In order to test whether this is true, I changed the first word on test list C from *anteponga* to *etnicismo*. In the latter word, the /t/ is clearly in a coda position. The results obtained on this test list would then show how this /t/ is handled by native speakers.

4 Administering the test

A total of 288 persons were given a copy of the instructions and the practice list. Of these, 191 (66.3%) satisfactorily completed the practice list and were thus given one of the three test lists. The remaining 97 persons (33.7%) were unable to consistently apply the rules of the game to the words on the practice list, and were therefore not given one of the three test lists.

The most frequent cause for failure on the practice list involved a curious displacement of the affixed syllable (*p* plus vowel) to an unprescribed location in certain types of syllables. That is, there appears to be an alternate set

of rules for this game according to which the epenthetic *p* and vowel are attached to closed syllables as an infix rather than as a suffix. In other words, given a syllable such as *tes*, for example, certain subjects pronounced it as *te-pes* rather than as *tes-pe*. What has happened here is that the *p* + vowel syllable has been inserted immediately after the nucleus and *before* the coda consonant, rather than *after* the coda consonant, as directed by the instructions. As John Clifton (personal communication) pointed out, this phenomenon can probably be ascribed to the natural pressure to place the reduplicated syllable as close as possible to the nucleus so as to minimize the distance between the underlying vowel and the epenthetic copied vowel. Before I began the testing I was not aware that this variation of the game existed.

The problem which this phenomenon poses with respect to the results of the experiment is that it makes the syllabification of the *tl* clusters ambiguous for those subjects who infixed rather than suffixed the epenthetic syllable. That is, compare the patterns attested below for those who followed the prescribed version of the game (suffixing the reduplicated syllable) as opposed to those who consistently followed the alternate version and infixed the epenthetic syllable:

(8)	*suffixation* *prescribed pattern*	*infixation* *alternate pattern*
usen	u-pu-se<u>n</u>-pe[2]	u-pu-se-pe<u>n</u>
artes	a<u>r</u>-pa-te<u>s</u>-pe	a-pa<u>r</u>-te-pe<u>s</u>

[2] At the UND colloquium in which this study was first presented, it was pointed out during the discussion period that perhaps the reason why infixation was chosen for words such as *usen* is that suffixation (*u-pu-sen-pe*) would have caused the *n* to be immediately followed by a heterorganic *p*. Therefore, since in Spanish it is so unnatural for a nasal not to be homorganic to a following consonant, infixation would automatically be chosen so as to separate the *n* and the *p*. However, I doubt that this explanation is correct since those subjects who did follow the prescribed rules, suffixing the *p* + vowel syllable, did assimilate the point of articulation of nasals to those of the following consonants. In other words, the transcription *u-pu-sen-pe*, for example, is actually an abstract one, corresponding to Spanish orthographic norms. The actual phonetic transcription of this word would really be [u-pu-sem-pe].

escudo	e<u>s</u>-pe-cu-pu-do-po	e-pe<u>s</u>-cu-pu-do-po
imitarla	i-pi-mi-pi-ta<u>r</u>-pa-la-pa	i-pi-mi-pi-ta-pa<u>r</u>-la-pa

etc.

Given a consistent pattern of infixation such as noted above in (8) for any particular subject, it would be impossible to tell how a *tl* cluster was being syllabified by such a person. For example, if the targeted word were *atleta*, and the syllabification were *a.tle.ta*, the subject would pronounce it as *a-pa-tle-pe-ta-pa*, with the *t* and the *l* occurring together since in this case they constitute a tautosyllabic onset. However, if the same subject wanted to syllabify this word instead as *at.le.ta*, he or she would pronounce it in a way which would sound exactly the same: *a-pat-le-pe-ta-pa*. In this case the *t* and the *l* would be adjacent not because they were tautosyllabic but because the first epenthetic syllable (*-pa-*) had been infixed between the nucleus (*a*) and the coda (*t*), and the next syllable started with *l*. Since *a-pa-tle-pe-ta-pa* and *a-pat-le-pe-ta-pa* sound the same in normal fast speech, it would be impossible to determine which syllabification was being indicated. Thus, when one of the subjects consistently preferred infixation rather than suffixation while pronouncing the words on the practice list, the interview with him or her was terminated at that point. This accounts for the majority of the 97 persons who failed the practice list and were therefore not given one of the test lists.

Thus a total of 191 recordings were made of the three test lists combined. Of these, 145 subjects (75.9%) gave recordings which proved to be usable in the sense that their pronunciations of the first six test words were consistent. However, the remaining 46 subjects (24.1%) did not completely follow the prescribed instructions when pronouncing the seven test list items, so their test results had to be considered invalid. Once again, the most frequent reason for failure on the test lists was a tendency to infix the reduplicated syllable rather than attaching it as a suffix. I assume that what happened here was that some of these subjects had already learned the game with an infixation rule, which showed up in unguarded speech on the test list, even though they had been more careful when pronouncing the items on the practice list and had been able to manipulate the epenthesis rule in accordance with the prescribed instructions. Thus of 191 total recordings made, 145 were consistent enough to be considered reliable. These 145 recordings then became the corpus upon which the following results are based.

The 145 speakers in the test sample consisted of 85 males and 60 females. Ages ranged from 13 to 53; the mean

was 23. The subjects came from 25 different locations in Peru, while one was from Puerto Rico. The testing was carried out in three Peruvian cities – Lima, Pucallpa, and Iquitos – from January 23 to May 25, 1990.

5 Results of the test

I will now discuss the actual test results. On test list A, the targeted word was *atlas*. A total of 45 reliable recordings were made of this list, and all 45 subjects (100%) indicated the syllabification as *a.tlas*, i.e., they pronounced this word as *a-pa-tlas-pa*.

For test list B, 57 usable recordings were made. Of these, 53 subjects (93%) syllabified the targeted word as *a.tle.ta*, as evidenced by the pronunciation *a-pa-tle-pe-ta-pa*. Of the remaining four subjects, two pronounced the targeted word as *a-ta-le-pe-ta-pa*. This probably corresponds to the syllabification *at.le.ta*, although the first epenthetic *p* (which should immediately follow the first *t*), does not appear. One subject gave the pronunciation *a-ta-tle-ta-ta-pa*, which is ambiguous since, on one hand, the first *t* appears to belong to the first syllable, yet the second syllable still displays an initial *tl* cluster. Finally, the one remaining subject gave the pronunciation *a-pa-te-pe-ta-pa*. This too is ambiguous since in this case the /l/ has been dropped off completely.

Regarding test list C, recall that during the course of the testing the first word was changed from *anteponga* to *etnicismo*, the purpose being to test for a syllable-final *t*. A total of 43 valid recordings of this list were made, 13 with *anteponga* and 30 with *etnicismo*. Of the 30 pronunciations of *etnicismo*, 27 (90%) evidenced a clear syllable-final *t*, while the remaining three (10%) did not. These facts appear to contradict Hooper's (1976:215) claim that voiceless stops cannot appear in the coda position in Spanish. Thus, since the option of a syllable-final *t* is clearly available to speakers of Peruvian Spanish, it cannot be argued that the syllabification *V.tlV* is required by default over *Vt.lV*.

Of the 43 total recordings made of the targeted word *atletismo* on test list C, 40 subjects (93%) chose the syllabification *a.tle.tis.mo*, as indicated by the pronunciation *a-pa-'le-pe-tis-pi-mo-po*. Of the remaining three subjects, one gave the pronunciation *a-ta-le-pe-tis-pi-mo-po*. This probably corresponds to the syllabification *at.le.tis.mo* since the *t* and the *l* are split, although once again the expected first *p* (immediately following the first

t) does not appear. Another subject pronounced the word as *at-pla-le-pe-tis-pi-mi-po*, which could also be interpreted as *at.le.tis.mo*, although interestingly enough, a reduplicated *l* shows up after the first *p*. The one remaining subject gave the pronunciation *a-pa-le-pe-tis-pi-mo-po*, which is ambiguous since in this case the first *t* has disappeared altogether.

The totals for all three word lists combined is 145 recordings, of which 138 (95.2%) indicated a preference for the syllabification *V.tlV*. Four subjects gave a pronunciation which could be interpreted as *Vt.lV*. The remaining three subjects gave results which were ambiguous. It is noteworthy that of the four subjects whose syllabifications might indicate the division *Vt.lV*, not one pronounced the word in a totally canonical way in accordance with the prescribed rules of the game. That is, the exact sequence *at-pa-lV...* was never attested at all.

6 Conclusion

The test results outlined in the previous section strongly indicate that, in Peruvian Spanish, at least, intervocalic *tl* clusters pattern as tautosyllabic onsets. This is especially significant in light of the claims made by Harris (1983), since this dialect lacks word-initial *tl* clusters (cf. section 2). Although the phonological evidence which a word game of this type provides is not the strongest which can be presented in favor of a particular analysis, its importance is enhanced by the fact that there exists so much disagreement among the thirteen consulted sources concerning the syllabification of word-internal *tl* clusters.

It might be objected, as Mark Karan (personal communication) has pointed out, that the results provided by an artificial, game-like situation of this type might be skewed since the prescribed, corpus-external rules might only be reinforcing a previously-learned behavior in the case of those subjects who had actually played the game before taking part in this experiment. In response, it is significant that 62 of the 145 subjects tested (42.8%) had never heard of or played this game before the experiment. These 62 subjects showed no consistent difference in results when compared with the remaining 83 subjects (57.2%) for whom the word game was not a novel experience.

Finally, as John Clifton (personal communication) has pointed out, the ideal would be to allow each subject to use the word game rules which he or she already knows, rather than teaching them prescriptively. However, this proposal

suffers from two drawbacks: (a) those who had already learned the game with an infixation rather than a suffixation rule would give ambiguous results (cf. section 4), and (b) this constraint would a priori eliminate as potential subjects all those who had never heard of the game before. What *would* make for an interesting study, as Clifton further observed, would be to present the game to illiterate adults and/or pre-literate children in order to see if there had been any influence from hyphenation rules learned in school among the subjects of the initial study. If non-literates did in fact perform the same way as literates, this would constitute stronger evidence that the syllabification *V.tlV* was in some way more basic. Perhaps that is the next step which should be taken.

APPENDIX: STATISTICAL SUMMARY OF THE TEST RESULTS

(1) total interviewed = 288
number recorded = 191 (66.3%)
number not recorded = 97 (33.7%)

(2) total recordings = 191
valid recordings = 145 (75.9%)
inconsistent recordings = 46 (24.1%)

(3) *atlas* (list A)
number recorded = 45
a.tlas = 45 (100%)

(4) *atleta* (list B)
number recorded = 57
a.tle.ta = 53 (93%)
at.le.ta (probably) = 2 (3.5%)
ambiguous = 2 (3.5%)

(5) *atletismo* (list C)
number recorded = 43
a.tle.tis.mo = 40 (93%)
at.le.tis.mo (probably) = 2 (4.7%)
ambiguous = 1 (2.3%)

(6) total for the three word lists combined
number recorded = 145
V.tlV = 138 (95.2%)
Vt.lV (probably) = 4 (2.8%)
ambiguous = 3 (2.1%)

(7) *etnicismo* (list C)
total recorded = 30
number pronounced with syllable-final *t* = 27 (90%)
number pronounced without syllable-final *t* = 3 (10%)

ABBREVIATIONS

f.	feminine	sg.	singular
m.	masculine	subj.	subjunctive
n.	noun	v.	verb

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